PATENT
Attorney Docket No. **UM-04496**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE #1 4

In re Application of: Tetsufumi Ueda *et al.*
Serial No.: Group No.: To be assigned
Filed: Herewith Examiner: To be assigned
Entitled: **Compositions and Methods For the Inhibition of Neurotransmitter Uptake of Synaptic Vesicles**

INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

CERTIFICATE OF MAILING UNDER 37 CFR § 1.8(a)

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to the: Assistant Commissioner for Patents, Washington, D.C. 20231, on July 10, 2000.

By: Anne M. Nelswander

Sir or Madam:

The citations listed below may be material to the examination of the above-identified application, and are therefore submitted in compliance with the duty of disclosure defined in 37 C.F.R. §§ 1.56 and 1.97. In accordance with 37 CFR §1.98(d), a copy of these citations is not provided since it was previously submitted by Applicants in the prior application serial no. 08/840,006, filed April 15, 1997, which is relied upon for an earlier filing date under 35 USC §120. The Examiner is requested to make these citations of official record in this application.

The following printed publications are referred to in the body of the specification:

- U.S. Patent No. 5,192,746 issued Mar. 9, 1993 to Lobl *et al*;
- U.S. Patent No. 5,169,862 issued Dec. 8, 1992 to Burke, Jr., *et al*;
- U.S. Patent No. 5,539,085 issued Jul 23, 1996 to Bischoff *et al;*
- U.S. Patent No. 5,576,423 issued Nov. 19, 1996 to Aversa *et al*;
- U.S. Patent No. 5,051,448 issued Sept. 24, 1991 to Shashoua;
- U.S. Patent No. 5,559,103 issued Sept. 24, 1996 to Gaeta *et al*;

- U.S. Patent No. 5,573,528 issued Nov. 12, 1996 to Aebischer *et al*;
- U.S. Patent No. 5,567,435 issued Oct. 22, 1996 to Hubbell *et al*;
- U.S. Patent No. 5,567,612 issued Oct. 22, 1996 to Vacanti *et al*;
- U.S. Patent No. 5,482,996 issued Jan. 9, 1996 to Russell *et al*;
- U.S. Patent No. 5,601,844 issued Feb. 11, 1997 to Kagayama *et al*;
- U.S. Patent No. 5,529,914 issued June 25, 1996 to Hubbell *et al*;
- U.S. Patent No. 5,573,934 issued Nov. 12, 1996 to Hubbell *et al*;
- U.S. Patent No. 4,895,727 issued Jan. 23, 1990 to Allen;
- U.S. Patent No. 4,557,934 issued Dec. 10, 1985 to Cooper;
- Nakanishi (1992) "Molecular Diversity of Glutamate Receptors and Implications for Brain Function," Science 258:597-603;
- Coyle and Puttfarcken (1993) "Oxidative Stress, Glutamate, and Neurodegenerative Disorders," Science 262:689-695;
- Bashir *et al.* (1993) "Induction of LTP in the hippocampus needs synaptic activation of glutamate metabotropic receptors," Nature 363:347-350;
- Naito and Ueda (1983) "Adenosine Triphosphate-dependent Uptake of Glutamate into Protein I-associated Synaptic Vesicles," J. Biol. Chem. 258:696-699;
- Tabb and Ueda (1991) "Phylogenetic Studies on the Synaptic Vesicle Glutamate Transport System," J. Neurosci. 11:1822-1828;
- Storm-Mathison *et al.* (1983) "First visualization of glutamate and GABA in neurones by immunocytochemistry," Nature 301:517-520;
- Nicholls and Sihra (1986) "Synaptosomes possess an exocytotic pool of glutamate," Nature 321:772-773;
- McMahon and Nicholls (1991) "The bioenergetics of neurotransmitter release," Biochim. Biophys. Acta 1059:243-264;
- Kish and Ueda (1991) "Calcium-dependent release of accumulated glutamate from synaptic vesicles within permeabilized nerve terminals," Neurosci. Lett. 122:179-182;
- Naito and Ueda (1985) "Chracterization of Glutamate Uptake into Synaptic Vesicles," J. Neurochem. 44:99-109;

- Fykse *et al.* (1989) "Comparison of the Properties of γ-Aminobutyric Acid and L-Glutamate Uptake into Synaptic Vesicles Isolated from Rat Brain," J. Neurochem. 52:946-951;
- Tabb *et al.* (1992) "Glutamate Transport into Synaptic Vesicles," J. Biol Chem. 267:15412-15418;
- Ueda (1986) "Glutamate Transport in the Synaptic Vesicle," in *Excitatory Amino Acids*, Macmillan Press, London, pp 173-195;
- Eldred *et al.* (1994) "Orally Active Non-Peptide Fibrinogen Receptor (GpIIb/IIIa) Antagonists: Identification of 4-[4-[4-(Aminoimino-methyl)phenyl]-1-piperazinyl]-1-piperidineacetic Acid as a Long-Acting, Broad-Spectrum Antithrombotic Agent" J. Med. Chem. 37:3882-3885;
- Ku *et al.* (1995) "Potent Non-peptide Fibrinogen Receptor Antagonists Which Present an Alternative Pharmacophore," J. Med. Chem. 38:9-12;
- Pearson and Lipman (1988) "Improved tools for biological sequence comparison," Proc. Natl. Acad. Sci. 85:2444-2448;
- Lipman and Pearson (1985) "Rapid and Sensitive Protein Similarity Searches," Science 227:1435-1441;
- Carlson *et al.* (1989) Glutamate Uptake into Synaptic Vesicles: Competitive Inhibition by Bromocriptine," J. Neurochemistry 53:1889-1894;
- Siegel and Monty (1966) "Determination of Molecular Weights and Frictional Ratios of Proteins in Impure Systems by Use of Gel Filtration and Density Gradient Centrifugation. Application to Crude Preparations of Sulfite and Hydroxylamine Reductases," Biochim.Biophys. Acta 112:346-362;
- Martin and Ames (1961) "A Method for Determining the Sedimentation Behavior of Enzymes: Application to Protein Mixtures," J. Biol. Chem. 236:1372-1379;
- Moon and McMahon (1990) "Generation of Diversity in Nonerythroid Spectrins," J. Biol. Chem. 265:4427-4433;
- Harris and Morrow "Proteolytic Processing of Human Brain Alpha Spectrin (Fodrin): Identification of a Hypersensitive Site," J. Neuroscience 8:2640-2651;

- Harris *et al.* (1988) "The Calmodulin-binding Site in α -Fodrin Is Near the Calcium-dependent Protease-I Cleavage Site," J. Biol. Chem. 263:15754-15761;
- Cheney *et al.*(1986) "Purification of Fodrin from Mammalian Brain," Meth. Enzymol. 134:42-54 (1986);
- Rise *et al.* (1991) "Genes for Epilepsy Mapped in the Mouse," Science 253:669-673; and
- Kurokawa *et al.* (1966) "Metabolic Studies on *ep* Mouse, a Special Strain with Convulsive Predisposition," Prog. Brain Res. 21A 112-130.

The following documents were cited by the Examiner in an Office Action mailed on 9/1/98 in the prior application serial no. 08/840,006:

- U.S. Patent No. 5,182,262 issued Jan. 26, 1993 to Leto; and
- Moon and McMahon (1990) "Generation of Diversity in Nonerythroid Spectrins," J. Biol. Chem. 265:4427-4433; and
- Stabach *et al.* (1997) "Site Directed Mutagenesis of αII Spectrin at Codon 1175 Modulates Its μ-Clapain Susceptibility," Biochem. 36:57-65.

Applicants have become aware of the following printed publications which may be material to the examination of this application:

- Di Stasi *et al.* (1991) "Neuronal Fodrin Proteolysis Occurs Independently of Excitatory Amino Acid-Induced Neurotoxicity," Neuron 6:445-454. Di Stasi *et al.* discloses the results of a study on the expression of fodrin during development of cultured cerebellar granule cells. Di Stasi *et al.* discloses that Ca^{2+}/calpain I-dependent proteolysis of fodrin in these cells is selectively associated with NMDA receptor activation. However, Di Stasi *et al.* does not disclose methods for using a composition comprising (a) purified fragment of fodrin which has glutamate uptake inhibition activity, and (b) purified fragment of IPF having synaptic vesicle glutamate uptake inhibition activity, (c) purified fragment of fodrin having glutamate uptake inhibition activity, wherein the fragment comprises a peptide having the sequence EAALTSEEVG within 150 amino acids of its C-terminus, and (d) purified peptide having glutamate uptake inhibition activity with an N-terminus sequence comprising the sequence YHRFK;

- Fischer-Bovenkerk *et al.* (1988) "ATP-Dependent Glutamate Uptake into Synaptic Vesicles from Cerebellar Mutant Mice," J. Neurochem. 51:1054-1059. Fischer-Bovenkerk *et al.* discloses that the ATP-dependent glutamate uptake system observed in crude synaptic vesicles prepared from mouse cerebellum has properties similar to those observed in highly purified bovine cortex synaptic vesicles. Using crude synaptic vesicle preparations from mutant mice, Fischer-Bovenkerk *et al.* also discloses that the ATP-dependent glutamate uptake system is present in granule cells, but not in Purkinje cells. Unlike the claimed invention, Fischer-Bovenkerk *et al.* does not disclose methods for using a composition comprising (a) purified fragment of fodrin which has glutamate uptake inhibition activity, and (b) purified fragment of IPF having synaptic vesicle glutamate uptake inhibition activity, (c) purified fragment of fodrin having glutamate uptake inhibition activity, wherein the fragment comprises a peptide having the sequence EAALTSEEVG within 150 amino acids of its C-terminus, and (d) purified peptide having glutamate uptake inhibition activity with an N-terminus sequence comprising the sequence YHRFK;
- Harris *et al.* (1989) "Calmodulin Regulates Fodrin Susceptibility to Cleavage by Calcium-dependent Protease I" J. Biol. Chem. 264:17401-17408. Harris *et al.* investigates the interaction of calmodulin and calcium-dependent protease I (CDP-1) with fodrin. Harris *et al.* discloses that calmodulin and CDP-1 act synergistically in the regulated proteolysis of fodrin. Harris *et al.* is distinguished from the claimed invention in that it does not disclose methods for using a composition comprising (a) purified fragment of fodrin which has glutamate uptake inhibition activity, and (b) purified fragment of IPF having synaptic vesicle glutamate uptake inhibition activity, (c) purified fragment of fodrin having glutamate uptake inhibition activity, wherein the fragment comprises a peptide having the sequence EAALTSEEVG within 150 amino acids of its C-terminus, and (d) purified peptide having glutamate uptake inhibition activity with an N-terminus sequence comprising the sequence YHRFK;

- Lewis *et al.* (1997) "Synaptic Vesicle Glutamate Uptake in Epileptic (EL) Mice," Neurochem. Int. 31:581-585. Lewis *et al.* discloses glutamate uptake activity in synaptic vesicles isolated from various brain regions in epileptic (EL) mice and nonepileptic control mice. However, Lewis *et al.* does not disclose methods for using a composition comprising (a) purified fragment of fodrin which has glutamate uptake inhibition activity, and (b) purified fragment of IPF having synaptic vesicle glutamate uptake inhibition activity, (c) purified fragment of fodrin having glutamate uptake inhibition activity, wherein the fragment comprises a peptide having the sequence EAALTSEEVG within 150 amino acids of its C-terminus, and (d) purified peptide having glutamate uptake inhibition activity with an N-terminus sequence comprising the sequence YHRFK;
- Martin *et al.* (1995) "Proteolysis of Fodrin (Non-erythroid Spectrin) during Apoptosis," J. Biol. Chem. 270:6425-6428. Martin *et al.* discloses that fodrin becomes cleaved during apoptosis which is induced by ligation of the CD3/T cell receptor complex, ligation of CD95, or treatment of cells with staurosporine, glucocorticoid, or synthetic ceramide. Nonetheless, Martin *et al.* does not disclose methods for using a composition comprising (a) purified fragment of fodrin which has glutamate uptake inhibition activity, and (b) purified fragment of IPF having synaptic vesicle glutamate uptake inhibition activity, (c) purified fragment of fodrin having glutamate uptake inhibition activity, wherein the fragment comprises a peptide having the sequence EAALTSEEVG within 150 amino acids of its C-terminus, and (d) purified peptide having glutamate uptake inhibition activity with an N-terminus sequence comprising the sequence YHRFK;
- Otswald *et al.* (1994) "Subcellular Distribution of Calpain and Calpastatin Immunoreactivity and Fodrin Proteolysis in Rabbit Hippocampus After Hypoxia and Glucocorticoid Treatment," J. Neurochem. 63:1069-1076. Otswald *et al.* discloses that glucocorticoid pretreatment of hypoxic rabbits prevented the increase in fodrin breakdown product that occurred in untreated animals during hypoxia and short-term recovery, indicating impairment of calpain activation.

However, Otswald *et al.* does not disclose methods for using a composition comprising (a) purified fragment of fodrin which has glutamate uptake inhibition activity, and (b) purified fragment of IPF having synaptic vesicle glutamate uptake inhibition activity, (c) purified fragment of fodrin having glutamate uptake inhibition activity, wherein the fragment comprises a peptide having the sequence EAALTSEEVG within 150 amino acids of its C-terminus, and (d) purified peptide having glutamate uptake inhibition activity with an N-terminus sequence comprising the sequence YHRFK;

- Özkan *et al.* (1997) "A protein factor that inhibits ATP-dependent glutamate and γ-aminobutyric acid accumulation into synaptic vesicles: Purification and initial characterization," Proc. Natl. Acad. Sci. USA 94:4137-4142. Özkan *et al.* is not prior art since it appears in an issue which was received by the University of California at San Francisco Library on April 29, 1997, *i.e.*, after the filing date of the instant application;[1]
- Shioi *et al.* (1989) "Glutamate uptake into synaptic vesicles of bovine cerebral cortex and electrochemical potential difference of proton across the membrane," Biochem. J. 258:499-504. Shioi *et al.* discloses that the ATP hydrolysis generates the protonmotive force for glutamate uptake into highly purified synaptic vesicles from the bovine cerebral cortex. However, Shioi *et al.* does not disclose methods for using a composition comprising (a) purified fragment of fodrin which has glutamate uptake inhibition activity, and (b) purified fragment of IPF having synaptic vesicle glutamate uptake inhibition activity, (c) purified fragment of fodrin having glutamate uptake inhibition activity, wherein the fragment comprises a peptide having the sequence EAALTSEEVG within 150 amino acids of its C-terminus, and (d) purified peptide having glutamate uptake inhibition activity with an N-terminus sequence comprising the sequence YHRFK;
- Siman *et al.* (1984) "Brain fodrin: Substrate for calpain I, an endogenous calcium-activated protease," Proc. Natl. Acad. Sci. USA 81:3752-3576. Siman

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[1] A copy of the stamp receipt dated 04/29/97 was enclosed at Tab 1 with the IDS that was mailed in the the prior application serial no. 08/840,006.

et al. discloses that purified calpain I degrades both purified fodrin and the fodrin present in hippocampal and cerebellar membranes. Siman *et al.* also discloses that fodrin degradation was selective, rapid, and is accompanied by the appearance of a lower molecular weight breakdown product. Siman *et al.* is distinguished from the claimed invention since it does not disclose methods for using a composition comprising (a) purified fragment of fodrin which has glutamate uptake inhibition activity, and (b) purified fragment of IPF having synaptic vesicle glutamate uptake inhibition activity, (c) purified fragment of fodrin having glutamate uptake inhibition activity, wherein the fragment comprises a peptide having the sequence EAALTSEEVG within 150 amino acids of its C-terminus, and (d) purified peptide having glutamate uptake inhibition activity with an N-terminus sequence comprising the sequence YHRFK;

- Siman *et al.* (1985) "Regulation of glutamate receptor binding by the cytoskeletal protein fodrin," Nature 313:225-228. Siman *et al.* discloses that fodrin controls membrane receptors since fodrin antibodies block the fodrin degradation and increase in glutamate binding normally induced by calcium. Siman *et al.* does not disclose methods for using a composition comprising (a) purified fragment of fodrin which has glutamate uptake inhibition activity, and (b) purified fragment of IPF having synaptic vesicle glutamate uptake inhibition activity, (c) purified fragment of fodrin having glutamate uptake inhibition activity, wherein the fragment comprises a peptide having the sequence EAALTSEEVG within 150 amino acids of its C-terminus, and (d) purified peptide having glutamate uptake inhibition activity with an N-terminus sequence comprising the sequence YHRFK;
- Wang *et al.* (1989) "Calmodulin-binding proteins as calpain substrates," Biochem. J. 262:693-706. Wang *et al.* reviews calmodulin binding proteins which include enzymes and cytoskeletal/structural proteins. Wang *et al.* discloses that calmodulin increases the rate of degradation of fodrin by calpain. Nonetheless, Wang *et al.* does not disclose methods for using a composition comprising (a) purified fragment of fodrin which has glutamate uptake

inhibition activity, and (b) purified fragment of IPF having synaptic vesicle glutamate uptake inhibition activity, (c) purified fragment of fodrin having glutamate uptake inhibition activity, wherein the fragment comprises a peptide having the sequence EAALTSEEVG within 150 amino acids of its C-terminus, and (d) purified peptide having glutamate uptake inhibition activity with an N-terminus sequence comprising the sequence YHRFK;

- Winter *et al.* (1993) "Glutamate Uptake System in The Presynaptic Vesicle: Glutamic Acid Analogs as Inhibitors and Alternate Substrates," Neurochem. Res. 18(1):79-85. Winter *et al.* discloses the effect of naturally occurring amino acids, their isomers and synthetic analogs on inhibiting the uptake of glutamate into presynaptic vesicles from bovine cerebral cortex. However, Winter *et al.* does not disclose methods for using a composition comprising (a) purified fragment of fodrin which has glutamate uptake inhibition activity, and (b) purified fragment of IPF having synaptic vesicle glutamate uptake inhibition activity, (c) purified fragment of fodrin having glutamate uptake inhibition activity, wherein the fragment comprises a peptide having the sequence EAALTSEEVG within 150 amino acids of its C-terminus, and (d) purified peptide having glutamate uptake inhibition activity with an N-terminus sequence comprising the sequence YHRFK; and
- GenBank Accession Number U26396. This document discloses the mRNA and partial CDS sequences of human fetal alpha II spectrin. However, this document does not disclose methods for using a composition comprising (a) purified fragment of fodrin which has glutamate uptake inhibition activity, and (b) purified fragment of IPF having synaptic vesicle glutamate uptake inhibition activity, (c) purified fragment of fodrin having glutamate uptake inhibition activity, wherein the fragment comprises a peptide having the sequence EAALTSEEVG within 150 amino acids of its C-terminus, and (d) purified peptide having glutamate uptake inhibition activity with an N-terminus sequence comprising the sequence YHRFK.

This Information Disclosure Statement under 37 C.F.R. §§ 1.56 and 1.97 is not to be construed as a representation that a search has been made, that additional information material to the examination of this application does not exist, or that any one or more of these citations constitutes prior art.

Dated: 10 July 2000

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FORM PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No.: UM-04496	Serial No.: 09/613170
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use Several Sheets If Necessary)		Applicant: Tetsufumi Ueda *et al.*	
(37 CFR § 1.98(b))		Filing Date: Herewith	Group Art Unit:

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Serial / Patent Number	Issue Date	Applicant / Patentee	Class	Subclass	Filing Date
	1	5,192,746	3/9/93	Lobl *et al.*			
	2	5,169,862	12/8/92	Burke, Jr., *et al.*			
	3	5,539,085	7/23/96	Bischoff *et al.*			
	4	5,576,423	11/19/96	Aversa *et al.*			
	5	5,051,448	9/24/91	Shashoua			
	6	5,559,103	9/24/96	Gaeta *et al.*			
	7	5,573,528	11/12/96	Aebischer *et al.*			
	8	5,567,435	10/22/96	Hubbell *et al.*			
	9	5,567,612	10/22/96	Vacanti *et al.*			
	10	5,482,996	1/9/96	Russell *et al.*			
	11	5,601,844	2/11/97	Kagayama *et al.*			
	12	5,529,914	6/25/96	Hubbell *et al.*			
	13	5,573,934	11/12/96	Hubbell *et al.*			
	14	4,895,727	1/23/90	Allen			
	15	4,557,934	12/10/85	Cooper			
	16	5,182,262	1/26/93	Leto			

OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)

	17	Nakanishi (1992) "Molecular Diversity of Glutamate Receptors and Implications for Brain Function," Science 258:597-603
	18	Coyle and Puttfarcken (1993) "Oxidative Stress, Glutamate, and Neurodegenerative Disorders," Science 262:689-695
	19	Bashir *et al.* (1993) "Induction of LTP in the hippocampus needs synaptic activation of glutamate metabotropic receptors," Nature 363:347-350
	20	Naito and Ueda (1983) "Adenosine Triphosphate-dependent Uptake of Glutamate into Protein I-associated Synaptic Vesicles," J. Biol. Chem. 258:696-699
	21	Tabb and Ueda (1991) "Phylogenetic Studies on the Synaptic Vesicle Glutamate Transport System," J. Neurosci. 11:1822-1828
	22	Storm-Mathison *et al.* (1983) "First visualization of glutamate and GABA in neurones by immunocytochemistry," Nature 301:517-520
	23	Nicholls and Sihra (1986) "Synaptosomes possess an exocytotic pool of glutamate," Nature 321:772-773
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	25	Kish and Ueda (1991) "Calcium-dependent release of accumulated glutamate from synaptic vesicles within permeabilized nerve terminals," Neurosci. Lett. 122:179-182
	26	Naito and Ueda (1985) "Chracterization of Glutamate Uptake into Synaptic Vesicles," J. Neurochem. 44:99-109
	27	Fykse *et al.* (1989) "Comparison of the Properties of γ-Aminobutyric Acid and L-Glutamate Uptake into Synaptic Vesicles Isolated from Rat Brain," J. Neurochem. 52:946-951
	28	Tabb *et al.* (1992) "Glutamate Transport into Synaptic Vesicles," J. Biol Chem. 267:15412-15418
	29	Ueda (1986) "Glutamate Transport in the Synaptic Vesicle," in *Excitatory Amino Acids*, Macmillan Press, London, pp 173-195

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FORM PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No.: UM-04496	Serial No.: 09/613170
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use Several Sheets If Necessary)		Applicant: Tetsufumi Ueda *et al.*	
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	30	Eldred *et al.* (1994) "Orally Active Non-Peptide Fibrinogen Receptor (GpIIb/IIIa) Antagonists: Identification of 4-[4-[4-(Aminoimino-methyl)phenyl]-1-piperazinyl]-1-piperidineacetic Acid as a Long-Acting, Broad-Spectrum Antithrombotic Agent" J. Med. Chem. 37:3882-3885
	31	Ku *et al.* (1995) "Potent Non-peptide Fibrinogen Receptor Antagonists Which Present an Alternative Pharmacophore," J. Med. Chem. 38:9-12
	32	Pearson and Lipman (1988) "Improved tools for biological sequence comparison," Proc. Natl. Acad. Sci. 85:2444-2448
	33	Lipman and Pearson (1985) "Rapid and Sensitive Protein Similarity Searches," Science 227:1435-1441
	34	Carlson *et al.* (1989) Glutamate Uptake into Synaptic Vesicles: Competitive Inhibition by Bromocriptine," J. Neurochemistry 53:1889-1894
	35	Siegel and Monty (1966) "Determination of Molecular Weights and Frictional Ratios of Proteins in Impure Systems by Use of Gel Filtration and Density Gradient Centrifugation. Application to Crude Preparations of Sulfite and Hydroxylamine Reductases," Biochim.Biophys. Acta 112:346-362
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	37	Moon and McMahon (1990) "Generation of Diversity in Nonerythroid Spectrins," J. Biol. Chem. 265:4427-4433
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	41	Rise *et al.* (1991) "Genes for Epilepsy Mapped in the Mouse," Science 253:669-673
	42	Kurokawa *et al.* (1966) "Metabolic Studies on *ep* Mouse, a Special Strain with Convulsive Predisposition," Prog. Brain Res. 21A 112-130
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	44	Di Stasi *et al.* (1991) "Neuronal Fodrin Proteolysis Occurs Independently of Excitatory Amino Acid-Induced Neurotoxicity," Neuron 6:445-454
	45	Fischer-Bovenkerk *et al.* (1988) "ATP-Dependent Glutamate Uptake into Synaptic Vesicles from Cerebellar Mutant Mice," J. Neurochem. 51:1054-1059
	46	Harris *et al.* (1989) "Calmodulin Regulates Fodrin Susceptibility to Cleavage by Calcium-dependent Protease I" J. Biol. Chem. 264:17401-17408
	47	Lewis *et al.* (1997) "Synaptic Vesicle Glutamate Uptake in Epileptic (EL) Mice," Neurochem. Int. 31:581-585
	48	Martin *et al.* (1995) "Proteolysis of Fodrin (Non-erythroid Spectrin) during Apoptosis," J. Biol. Chem. 270:6425-6428
	49	Otswald *et al.* (1994) "Subcellular Distribution of Calpain and Calpastatin Immunoreactivity and Fodrin Proteolysis in Rabbit Hippocampus After Hypoxia and Glucocorticoid Treatment," J. Neurochem. 63:1069-1076
	50	Özkan *et al.* (1997) "A protein factor that inhibits ATP-dependent glutamate and γ-aminobutyric acid accumulation into synaptic vesicles: Purification and initial characterization," Proc. Natl. Acad. Sci. USA 94:4137-4142
	51	Shioi *et al.* (1989) "Glutamate uptake into synaptic vesicles of bovine cerebral cortex and electrochemical potential difference of proton across the membrane," Biochem. J. 258:499-504
	52	Siman *et al.* (1984) "Brain fodrin: Substrate for calpain I, an endogenous calcium-activated protease," Proc. Natl. Acad. Sci. USA 81:3752-3576
	53	Siman *et al.* (1985) "Regulation of glutamate receptor binding by the cytoskeletal protein fodrin," Nature 313:225-228

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FORM PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No.: UM-04496	Serial No.: 09/613,178
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	54	Wang *et al.* (1989) "Calmodulin-binding proteins as calpain substrates," Biochem. J. 262:693-706
	55	Winter *et al.* (1993) "Glutamate Uptake System in The Presynaptic Vesicle: Glutamic Acid Analogs as Inhibitors and Alternate Substrates," Neurochem. Res. 18(1):79-85
	56	GenBank Accession Number U26396

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